5-9-2012

Fostering Student Responsibility: The Effectiveness of Incentive-Based Systems

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Abstract

The purpose of this research was to determine whether implementing an incentive-based system for middle schoolers would increase student responsibility in the areas of arriving on time to class, bringing all required materials to class, turning assignments in on time, and including names on assignments. In an English-language arts classroom of twenty-two sixth graders, a system was implemented in which the students' responsibility in the four aforementioned categories was recorded daily. Their performance in a randomly chosen category each day either increased or hindered their likelihood of earning the ultimate reward dependent on their overall performance over the twenty-three day span. Results, though not conclusive, indicated that the incentive system encouraged responsible student behavior. Daily student performance in each of the four categories was not consistent over the twenty-three experiment days; however, students earned the ultimate reward. These results suggest that the system was an effective behavior intervention and could lend to further research and practice.

Research Fundamentals

Problem:
This research was inspired by students' continued irresponsibility and corresponding failure to fulfill standard classroom requirements. Observation of and reflection on this recurring dilemma prompted interest in a system to encourage student responsibility and improve the rate of requirement fulfillment. Given the nature of the students and findings from previous research, an incentive-based program was chosen as the test system.

Purpose of Study:
- To determine whether an incentive-based system will be effective in increasing student responsibility.
- To implement a system in which students will be able to monitor their own responsible acts and earn a reward after performing a certain amount of such acts.
- To encourage student responsibility and increase the percentage of students who perform responsible acts in order to make the class as a whole more responsible.

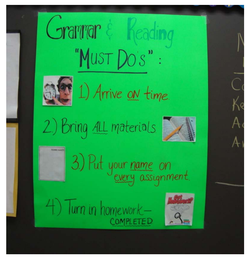
Question:
Will the implementation of an incentive-based system in a language arts classroom increase student responsibility, including being on time to class, bringing all their materials, including names on their papers, and turning assignments in on time?

Hypothesis:
The implementation of an incentive-based system in a language arts classroom will result in a higher percentage of students practicing responsible acts, including being on time to class, bringing all their materials, including names on their papers, and turning assignments in on time.

Methodology

Setting and Context:
- Community Profile
  - Small, Midwestern suburban city
  - Population
    - Majority—white
    - Next highest percentage—Hispanic or Latino origin
- Classroom Profile
  - Public middle school (grades 6-8)
  - Sixth grade English/language arts
  - 22 students—11 males, 11 females

Participants:
- All 22 classroom students
- Mix of white students, those of Hispanic origin, and those of Asian origin
- All part of CSI: Core Studies Initiative English/language arts program for students with underdeveloped skills
- Majority from lower income families



Research Procedure:
- Two jars were kept on the teacher's desk. Upon the initial implementation of the system, Jar 1 contained 23 colored cotton balls (referred to as "fuzzies"), and Jar 2 was empty. There was one fuzzy for every day in the system cycle.
- A poster was mounted in the front of the room with the requirements for coming to every class: students must be on time, bring all class materials, turn in completed assignments on time, and include their names on submitted papers.
- Throughout each class period, the teacher checked for each of the above requirements and made note of their fulfillment. She recorded the number of students who did not fulfill the requirement in each category.
- At the end of each class period, the teacher randomly selected one of the four requirements. If no infractions were made in the chosen category, one fuzzy was moved from Jar 1 to Jar 2. If any infractions were made in the chosen category, no fuzzy was moved.
- Upon the initial implementation of the system, students were informed that if their responsible acts manage to transfer all of the fuzzies from the Jar 1 into Jar 2, they would receive a pizza party as a reward. They were also informed that "bonus" fuzzies could be moved on any given day if students displayed exceptionally good behavior.
- The system was terminated at the end of the 23-day cycle.

Summary of Data Findings

Chart 1

Daily Fuzzy Movement and Jar Totals

Day	Requirement drawn:	Fuzzy moved?	Total Jar 1	Total Jar 2
1	All assignments complete	no	23	0
2	All assignments complete	yes	22	1
3	All names on papers	yes	21	2
4	none--all were met	yes*	19	4
5	All names on papers	no	19	4
6	On time to class	yes	18	5
7	none--all were met	yes	17	6
8	On time to class	yes	16	7
9	All names on papers	yes	15	8
10	On time to class	yes	14	9
11	none--all were met	yes	13	10
12	On time to class	no	13	10
13	All assignments complete	yes	12	11
14	none--all were met	yes*	10	13
15	none--all were met	yes	9	14
16	none--all were met	yes	8	15
17	none--all were met	yes*	6	17
18	All materials for class	yes	5	18
19	none--all were met	yes	4	19
20	On time to class	no	4	19
21	All materials for class	yes	3	20
22	All assignments complete	yes	2	21
23	none--all were met	yes*	0	23

*2 fuzzies moved for having met all requirements or displaying exceptionally good behavior or work ethic

Chart 2

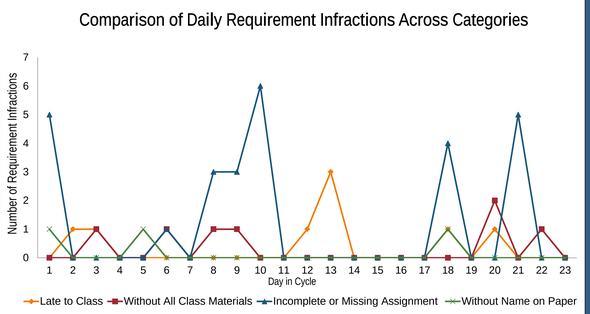
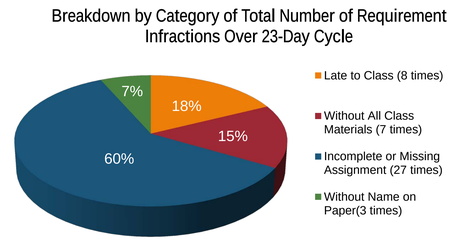


Chart 3



Grand total of requirement infractions for all four categories over 23-day program duration = 45

Analysis

- Once the 23-day cycle ended and the data for each day had been recorded, the findings from each day were compiled, including:
  - The number of infractions in each category
  - The requirement chosen
  - Whether or not the fuzzy was moved
  - The fuzzy totals for each jar
- In order to view the progression of fuzzy movement based on requirement fulfillment, the chosen requirement, whether the fuzzy was moved, and the jar totals were organized together. (Chart 1)
- In order to compare all four categories on a daily scale and to monitor the progression of requirement infractions over the 23-day cycle, the number of infractions in each category was plotted against the number of infractions in each of the other three categories for each day of the cycle. (Chart 2)
- In order to determine in which category the students were most irresponsible, the total number of infractions in each category was calculated as a percentage of the sum of infractions across all four categories over the 23-day cycle. (Chart 3)

Discussion

- Because the determining category was chosen randomly each day, the fuzzy was sometimes moved even if students had infractions in one or more other requirement categories.
- Students succeeded in moving all the fuzzies from Jar 1 into Jar 2 by the final day of the cycle.
- The number of requirement infractions varied by category each day and over the entire 23-day cycle.
- The greatest number of infractions overall occurred in the "All Assignments Complete" category.
- The number of daily infractions in any and all categories did not progress steadily over the 23-day cycle.

Conclusion

- Considering that no trend can be found to have increased or decreased the fulfillment of any of the requirements or student responsibility as a whole, the research is inconclusive.
- Infractions in none of the categories increased or decreased consistently over time; therefore, the incentive system alone cannot be credited for improving student responsibility.
- Given that the students were successful in moving all the fuzzies in the 23-day cycle, however, a certain degree of effectiveness in encouraging responsible student behavior can be attributed to the system.
- The effectiveness of this reward system in this case study opens possibilities for further research on incentive-based systems that limit variables and test more purely the influence of rewards on student responsibility.

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